GEOGRAPHIC SCHOOL BULLETINS

THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

NOVEMBER 28, 1960, VOLUME 39, NUMBER 9 . . . *To Know This World, Its Life*

CALIFORNIA

also — Pygmies, Prairies and Plains,
Austria's Salzkammergut

UMI

NATIONAL GEOGRAPHIC PHOTOGRAPHER JOSEPH BAYLOR ROBERTS

BOUNTIFUL CALIFORNIA

UMBRELLA-SHAPED, a date palm fans open toward the sky, the scorching southern California sun filtering through its leaves. High in the northern Sierra Nevada, at Squaw Valley, the skier on the cover executes an exacting jump-turn over snow-blanketed slopes. Seemingly seasons apart, the two pictures underline the striking diversity of California.

Among the states, only Alaska and Texas cover larger areas. California holds 158,693 square miles. Its 1,190-mile Pacific coast stretches from cool Oregon beaches to the searing Mexican border. In the southern town of Brawley, temperatures climb so high pool bathers paddle under electric fans.

Californians can be forgiven for talking about their state in superlatives. It has the nation's deepest sink—Death Valley, 282 feet below sea level—and the highest point south of Alaska—Mount Whitney's white-thatched peak, soaring 14,495 feet. California holds the world's oldest living thing, a 4,600-year-old bristlecone pine in the White Mountains. It claims the tallest tree, a coast redwood, the 364-foot Founders Tree in Humboldt Redwoods State Park. The world's longest suspension span—Golden Gate—links peninsular San Francisco with Marin County. The nation's highest free-leaping waterfall, the first drop of Yosemite Falls, plunges 1,430 feet.

California won statehood in 1850. Gold discovered at Sutter's Mill in 1848 had transformed the region almost overnight. Thousands of Easterners rushed to establish claims, pushing California's population from about 15,000 in 1847 to 379,994 by 1860. Now it is 15,700,000.

The suddenness of settlement demanded local industry, for 3,000 miles cut the 49ers off from eastern supplies—and competition. Flour mills, tanneries, foundries

UMI

NGS PHOTOGRAPHERS HOWELL WALKER AND KATHLEEN REVIS (COVER)

From its forests come trees, like the giants above near Eureka, to be turned into furniture, plywood, and paper. From the sea come fish—here a box of squirming ling cod. From its deserts come dates, and a new way of life; from its valleys, potatoes, lettuce, and oranges; from beneath the ground, oil, natural gas, and still some gold. Turbines convert the wrath of rivers into electricity to spin the whirring wheels of factories in California, western horn of plenty.

GEOGRAPHIC SCHOOL BULLETINS Copyright © 1960 by the National Geographic Society, Melville Bell Grosvenor, President. Published each week during school months by the School Service Division, Ralph Gray, Chief. Assistants: Arthur P. Miller, Jr., Frank Sartwell, Katherine Crapster, Liva Baker. Entered as second class matter, Washington, D.C. International copyright. All rights reserved. Rates: United States, $2.00 for 30 issues (one school year); Canada, $2.25; elsewhere, $2.50. U. S. only, 3 years (90 issues), $5.00. The National Geographic Society is a nonprofit educational and scientific society established for the increase and diffusion of geographic knowledge.

CALIFORNIA DIVISION OF HIGHWAYS

down to Pacific beaches. The high Sierra Nevada cuts much of the state off from its eastern neighbors. In the mountains, where water is plentiful, the land is not level enough to take the plow. In the fertile valleys, water is scarce. Californians work to bring water down from the mountains. Shasta Lake, for example, gathers the rain and snow of northern California. Rivers, pumps, and canals transfer the water to dry reaches of the 500-mile-long Central Valley—nearly as big as New Jersey, Delaware, and Massachusetts combined.

Today California produces one-eighth of the nation's crops. Farmers devote whole ranches—Californians call all farms ranches—to one crop: cotton, oranges, plums, olives. Different climatic, soil, and water conditions make it possible to raise 269 crops. Livestock, poultry, and honeybee products also come from California ranches.

If farming is big business, industry is even bigger. Less than one-fifth of the population lives in rural areas. The sprawling metropolis of Los Angeles (left), leading manufacturing center and port, holds nearly 2,500,000 people. San Francisco, below, with Golden Gate Bridge in the foreground, holds 715,000. The State's sunny reputation brought many. Industry attracted others.

During and since World War II, big war industries grew—aircraft, guided missiles, electronics, and electrical equipment. After the war others joined the parade to California. In Los Angeles, in one day, a visitor can see fish canned, clothing made, planes manufactured, cars assembled, oil refined, pottery baked, steel smelted, meat packed, and of course, in Hollywood, movies filmed. L.B.

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

UMI

NATIONAL GEOGRAPHIC PHOTOGRAPHER JOSEPH BAYLOR ROBERTS

Rugged hills, like those at left on the Monterey Peninsula, jag California's coast. In the southwest, desert shimmers in the sun. But gradually the wastelands retreat before man-made oases. Wells and canals bring citrus trees, melons, cotton, and dates into bloom. Californians rush to their new frontier. Luxurious homes rise, like the one in Palm Springs below, with wall-to-pool carpeting. More modest week-end cabins like that near Pearblossom, bottom, offer relief from city bustle.

CHARLES HERBERT

sprang up, and the seeds of California's present-day big industry were sown. Men who failed to strike it rich panning for gold in the rivers drifted into valleys to build a rich agriculture.

Today California grows everything from almonds to zucchini. But turning the state into a garden was not easy—the water was in the wrong place.

Rugged coastal ranges march

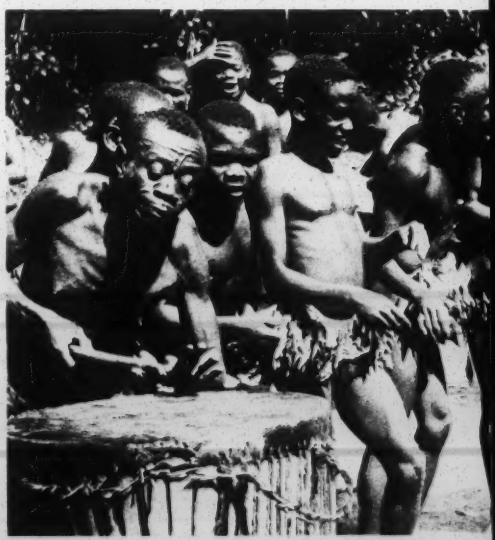
Deadly serious about the quest for food, Pygmy poison makers above crush plants into a lethal paste for coating arrow tips. Home from the hunt, the Pygmy is a carefree fellow, singing and dancing far into the night. Elder at right beats out a rhythm on his skin-covered drum. Performers in bark-cloth breechclouts decorated with leaves exchange jokes. Below: A Pygmy stands shoulder-high to an African of normal height.

W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF

The all-important hunt flavors Pygmy play. Boys shoot arrows at a piece of fruit, sending it dancing across the forest floor. Others fearlessly stalk a scrawny chicken. To help the youngsters sharpen their aim, one of the men swings a fruit on a string while the boys hurl sharpened sticks at it.

Little girls play house. They build a miniature hut and cook plantains over a fire.

Tots who can barely toddle climb trees and play with sharp knives. Some are fair marksmen by the age of three. At his marriage, a young man receives a traditional gift—a hunting net. As high as a tennis net and 100 to 300 feet



long, it represents years of work by his mother who started it when he was a child.

Men spend most of their days in the chase. Women often go along to stir up the animals, driving them toward nets linked together and hung in the undergrowth. When an animal runs into the semicircle of nets, the men kill it.

When the hunters return to camp, they examine the nets to see which are bloodstained. The family into whose net an animal falls takes first choice. Less fortunate families also get a share. The Bantu buy the rest. L.B.

UMI

PHOTOGRAPHS BY HELENE FISCHER

AFRICA'S LITTLE MARKSMEN . . . Pygmies

DEEP in the African forest, screened by a lattice of grass, the hunter aims a poison-tipped arrow. The antelope will fall, for the hunter is an expert marksman. He played with a bow and arrow as soon as he could walk.

Only four or five feet tall, the Pygmy lives in the Ituri Forest in the northeast corner of the Republic of the Congo (formerly Belgian Congo). He cultivates little land, for farming would confine him to one spot and make him work in the hot sun. Instead, he lives by the spear and the bow and arrow, wandering through the forest following game.

Mystery shrouds the origin of the Pygmies, but they seem to have dwelt in the forest for many centuries. Early Greek and Egyptian works mentioned the Little People. Some anthropologists believe they were the first humans in central Africa. The Greeks coined the word *pygmaios*, indicating the distance from elbow to knuckles—the Greek notion of a Pygmy's height. Pygmies may once have spoken a distinct language. If so, they have long since forgotten it. For marketing, Pygmies use Kingwana, the trade language of the east Congo, a corruption of Swahili brought into the area by Arab slavers.

The Pygmies have allied themselves in a kind of vassal-lord arrangement with the taller Bantu. But it is an informal agreement and lacks cruelty.

Under it, the Bantu get fresh meat—which they pay for—and the Pygmies get a kind of African forest social security: protection, and the tools and utensils which they have never learned to forge themselves. The Bantu feel a sense of ownership toward their charges and even "bequeath" useful Pygmies to their descendants.

Prairie dog—Love of the grasslands and barklike call named this rodent of the West. As open prairies and plains shrank, his numbers dropped until now the best place to find one is a national park or monument. This one barks in the Wichita Mountains Wildlife Refuge, Oklahoma.

M. WOODBRIDGE WILLIAMS, NATIONAL GEOGRAPHIC STAFF

grasses were sparse in the drier Great Plains area, but lush in the prairie where there was more moisture.

For untold ages, the prairie endured. Then civilization arrived. The first settlers, accustomed to the forests of the East, located in wooded stream valleys, avoiding the higher meadows. When the plow was turned to them, it was discovered that the prairies held some of the richest soil in the world. Then the settlers moved out into the open, built sod houses, and sang such songs as:

My home it is built of the national soil,
Its walls are erected according to Hoyle.
Its roof has no pitch, but is level and plain,
I always get wet if it happens to rain.

As farmers increased, overgrazing began, and the rich grasses gave way to weeds. Mighty machines broke the sod to produce bumper harvests of wheat and other grains.

Only recently have Americans become aware of the treasure that is slipping away; but now there is real hope that what remains of the prairie can be preserved as part of the country's living heritage to delight Americans of the future.

At the University of Missouri, for example, saving the prairie has involved changes in the highway planning for Interstate Route 70, which will be built along the north side of the Tucker Prairie tract.

All the sod that must be taken up for the roadway will be placed on adjoining areas long since denuded of prairie plants.

Plant specialists and agricultural historians work to recreate and keep intact a small island of vegetation exactly like the entire sea of grassland which once surrounded it. Bluestem grass, a hardy prairie cover, grows here higher than a man's head (right), just as it was described by the pioneers.

To extend the prairie, seed from such grasses has been sown in near-by areas. F. S.

UNIVERSITY OF MISSOURI

UMI

Prairies and Plains

NATIONAL GEOGRAPHIC PHOTOGRAPHER BATES LITTLEHALES

THE PRAIRIE, which played a major role in American history, has almost disappeared.

Plows tore up the rich grassland for farms. Cities rose. Suburbs spread. Roadways ate up more sod. Today there remain only a few shreds of the original prairie whose rich grasses and delicate flowers once astonished and delighted pioneers from the eastern forests.

But at least some prairieland may be saved for the future. National Park Service officials are studying surviving prairie areas with the idea that a prairie national monument may some day be created. Already the University of Missouri has acquired 160-acre Tucker Prairie near Columbia, Missouri, and will try to preserve the original sod. Conservation groups are taking a lively interest.

The prairie known to the pioneers was a magnificent meadowland that stretched from the forest margins of Indiana and Wisconsin into Kansas and the Dakotas. In the north it ranged into Manitoba, and in the south, into Texas. Early settlers gave it the name *prairie*, a French word meaning "extensive meadow."

Beyond the prairie's waving grasses and flowers lay the Great Plains, an even bigger but drier and sparser grassland that swept to the Rocky Mountains. The buffalo above graze on the plains at Wind Cave National Park, South Dakota.

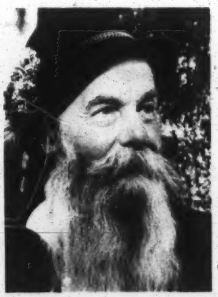
It is hard to imagine the surprise and joy of the pioneers when they first saw the prairie grasslands.

"They run . . . as far as the eye can see," General Josiah Harmar reported to Secretary of War Henry Knox on November 24, 1787. "Here & there a copse of woods is interspersed . . . They are free from brush & undergrowth and the least vestige of their ever having been cultivated. The country is excellent for grazing, and abounds in Buffalo, Deer, Bears, etc."

In 1824 William Blane described his feelings as he crossed the "boundless meadows" west of Vincennes, Indiana.

"I was perfectly alone, and could see nothing in any direction but sky and grass. Leaving the wood appeared like embarking alone upon the ocean; and, upon again approaching the wood, I felt as if returning to land . . . Not a living thing could I see or hear, except the occasional rising of some prairie fowls, or perhaps a large hawk or eagle wheeling about over my head."

Scientists believe the North American prairie originated about 25 million years ago after an uplift of the Rocky Mountains and consequent changes in climate. The mountains blocked the moisture-laden winds coming in from the Pacific Ocean; the winds that vaulted the Rockies were dry and produced little rainfall. Hence tree-growth was generally retarded. Forests gradually disappeared, and grasses took over. The



graphic Assistant Editor, who wrote of the Salzkammergut in the August 1960 *National Geographic*. Today it is extracted by flooding great underground chambers with water, then draining off the brine through pipes to dehydrating centers. More than a million pounds of salt are sucked out of the hills each year. But salt is not as profitable as the very visitors the crown formerly sought to keep out.

Times have changed, but the clock runs slowly in towns like Hallstatt, below. Narrow, cobbled streets defy newfangled automobiles. It's not too difficult to imagine the Emperor himself stepping out of one of the shops. Even the townspeople bear the stamp of another era. A bearded oldster vividly recalls the *"guten alten Zeiten"* (good old times). A sturdy farm woman hoists her hay rake and heads for a mountain pasture. Wolfgang Kopper, above right, hunter to an archduke, is jaunty in traditional hat and well-seasoned pipe. A baker's boy in chef's cap and white apron rides by with long loaves of the day's fresh bread sticking out of the bag hung from his shoulder.

There is time too for music and the arts. Mozart was born in near-by Salzburg. Franz Lehár, who wrote the "Merry Widow," lived in Bad Ischl at the height of his fame.

Pastimes are enjoyed at an easy-going pace. On the lakes, sailboats outnumber motorboats. In the Salzkammergut variation of badminton, the players use no net, keep no score. They simply knock the shuttlecock back and forth between them for the fun of it. Coffee houses provide free newspapers, magazines, and playing cards for their customers.

Visitors who want to glimpse Salzkammergut's beginnings can enter the underground honeycomb in novel fashion. Taking a tight grip on their guide, they slide down a wooden ban-

Photographs by Volkmar Wentzel, National Geographic Photographer

UMI

Salzkammergut

AUSTRIA'S ALPINE HIDEAWAY

Visitors who ride the winding railway to the top of the Schafberg reap this visual harvest. The mountains and lakes of Austria's pleasure land stretch before them like a giant mosaic. Snow-thatched peaks tower beside glittering lakes, where tiny sailboats catch the wind. Chalets poke gabled roofs above the pines. The fragile tinkle of a cowbell drifts up from a mountainside pasture.

Far below, along the shores of the Wolfgangsee, visitor and native alike relax and admire the majestic stage setting nature has erected for them. Austrian bathers absorb the view from rubber tubes in the middle of the lake. Patrons at rustic inns nibble crackers and cheese as they watch the paddle-wheel steamer *Franz Josef I* swing out from the pier to meander down the lake.

The steamer is aptly named. It was the young emperor Franz Josef who opened this treasure house of natural beauty to unrestricted view. For centuries, the region had snuggled unadvertised in the mountains east of Salzburg.

The reason for the closed door policy was salt. Salzkammergut, as the area is called, means "Salt Crown Lands." Even before the Celts and Romans had invaded these valleys, men were mining salt in caverns hacked out of the high mountains. By medieval times, salt production had become a close-fisted government monopoly, a rich source of revenue—as long as smuggling could be kept under control.

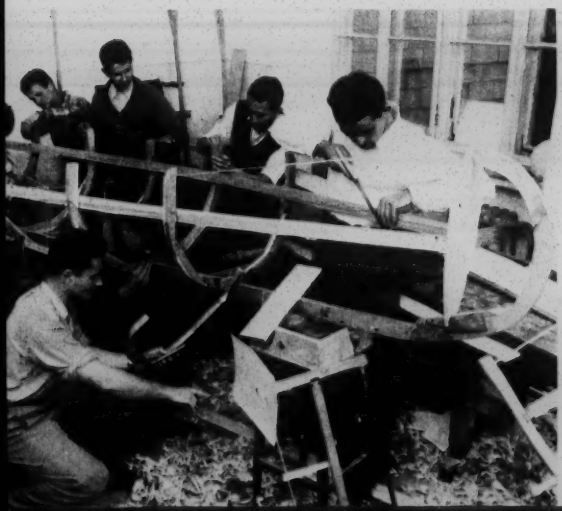
To prevent any illegal traffic, the authorities shut off the area. Travelers had to show permits to enter; local peasants were warned not to stray. Not until the mid-19th century did Franz Josef discover the delights of the local mineral waters and superb hunting. He set up his summer court at Bad Ischl, and opened the region.

Salt is still important, according to Beverley M. Bowie, the late *National Geo-*

nister into the mine shaft (below).

But the mines have not always been used for such fun-loving adventure. It was in one of these galleries that the Nazis, near the end of World War II, hid a priceless hoard of paintings—works by Vermeer, the Van Eycks, Michelangelo, Titian. The Germans booby-trapped them with bombs, rigged to destroy the paintings.

The Good Life—Coffee shops like this one at Bad Ischl offer patrons the same tasty almond buns formerly served to reigning monarchs. Baron Hermann Sterneck, a patron for 40 years, reads his Salzburg daily paper. Below: Talented hands piece together pleasure craft for Salzkammergut's popular lakes.



But the Austrian miners, determined not to see their place of business ruined, removed the bombs. A considerable part of the world's heritage of art—and the salt as well—was saved.

Its new prominence has changed Salzkammergut little. No billboards, neon signs, or gaudy nightspots mar the landscape. Franz Josef, if he returned, would feel right at home.

A. P. M.

UMI